WHAT IS CLAIMED:

1. A method of treating a microorganism infection in a patient which comprises administering to said patient an effective amount of a compound capable of inhibiting an enzyme that is important to energy storage or utilization in said microorganism.

2. A method of treating a microorganism infection in a patient which comprises administering to said patient an effective amount of a compound capable of inhibiting the production of ADP-glucose.

3. A method of treating a microorganism infection in a patient which comprises administering to said patient an effective amount of a compound capable of inhibiting the conversion of α-glucose-1-phosphate + ADP into ADP-glucose + Ppi.

4. A method of treating a microorganism infection in a patient which comprises administering to said patient an effective amount of a compound capable of inhibiting the chain elongation of ADP glucose.

5. A method of treating a microorganism infection in a patient which comprises administering to said patient an effective amount of a compound to inhibit the activity of glycogen synthase (EC 2.4.1.21).

6. A method of treating a microorganism infection in a patient, which comprises administering to said patient an effective amount of a compound capable of inhibiting the activity of ADP glucose pyrophosphorylase (EC 2.7.7.27).

7. The method according to any one of claims 1 - 6, wherein said patient is a human.

8. The method according to any one of claims 1 - 6, wherein said pathogenic microorganism is a member selected from the group consisting of *Chlamydia pneumoniae, Chlamydia trachomatis, Esherichia coli* O157, *Haemophilus influenzae, Mycobacterium leprae, Mycobacterium tuberculosis, Salmonella typhimurium* and *Vibrio cholerae, Streptococcus pneumonia, Yersinia pestis, Bacillus subtilus* and *Bacillus anthracis*.

9. The method according to claim 8, wherein said patient is a human.

10. The method according to claim 7, wherein said compound is adenosine boranodiphosphoglucose, or a pharmaceutically acceptable salt thereof.

11. The method according to claim 8, wherein said compound is adenosine boranodiphosphoglucose, or a pharmaceutically acceptable salt thereof.

12. A pharmaceutical composition for the treatment of a microorganism infection which comprises a pharmaceutically acceptable carrier and an effective anti-microbial amount of adenosine boranodiphosphoglucose, or a pharmaceutically acceptable salt thereof.

13. A pharmaceutical composition for the treatment of a microorganism infection which comprises a pharmaceutically acceptable carrier and an effective anti-microbial amount of a compound which is an inhibitor of ADP-glucose pyrophosphorylase (EC 2.7.7.27), or a pharmaceutically acceptable salt thereof.

14. A pharmaceutical composition for the treatment of a microorganism infection which comprises a pharmaceutically acceptable carrier and an effective anti-microbial amount of a compound which is an inhibitor of glycogen synthase (EC 2.4.1.21), or a pharmaceutically acceptable salt thereof.

15. A method of identifying a compound capable of inhibiting the growth of pathogenic microorganisms in a mammalian patient, which comprises:

a) identifying an enzyme that is important to energy storage or utilization in said pathogenic microorganism, which enzyme is not present in said mammalian patient; and

b) identifying a compound that inhibits said enzyme in said pathogenic microorganism.

16. The method according to claim 15, wherein said mammalian patient is a human patient.

17. The method according to claim 15, wherein said pathogenic microorganism is a member selected from the group consisting of *Chlamydia pneumoniae, Chlamydia trachomatis, Esherichia coli* O157, *Haemophilus influenzae, Mycobacterium leprae,*

Mycobacterium tuberculosis, Salmonella typhimurium and *Vibrio cholerae, Streptococcus pneumoniae, Yersinia pestis, Bacillus subtilus* and *Bacillus anthracis.*

18. A method of identifying a compound capable of inhibiting the growth of pathogenic microorganisms which comprises identifying a compound that inhibits the conversion of α-glucose-1-phosphate + ATP into ADP-glucose + Ppi.

19. A method of identifying a compound capable of inhibiting the growth of pathogenic microorganisms which comprises identifying a compound that inhibits the chain elongation of ADP glucose.

20. A method of identifying a compound capable of inhibiting the growth of pathogenic microorganisms by interfering with energy storage or utilization in said microorganism which comprises identifying a compound that inhibits the activity of ADP glucose pyrophosphorylase (EC 2.7.7.27).

21. A method of identifying a compound capable of inhibiting the growth of pathogenic microorganisms by interfering with energy storage or utilization in said microorganism which comprises identifying a compound that inhibits the activity of glycogen synthase (EC 2.4.1.21).

22. A method of identifying a compound capable of inhibiting the growth of pathogenic microorganisms by interfering with the activity of ADP-glucose pyrophosphorylase (EC 2.7.7.27) which method comprises incubating a sample of bacteria in a media in the presence or absence of a test compound, and assessing the effect on conversion of α-glucose-1-phosphate, wherein a lower level of conversion of α-glucose-1-phosphate in the presence of said test compound, compared with the level of conversion of α-glucose-1-phosphate in the absence of said test compound, indicates that said test compound interferes with the activity of ADP glucose pyrophosphorylase (EC 2.7.7.27).

23. A method of identifying a compound capable of inhibiting the growth of pathogenic microorganisms by interfering with the activity of glycogen synthase (EC 2.4.1.21) which method comprises incubating a sample of bacteria in a solution containing a known amount of ADP glucose in the presence or absence of a test compound, and assessing the effect on chain elongation of ADP glucose in the presence of said test

compound, compared with the level of chain elongation in the absence of said test compound, indicates that said test compound interferes with the activity of glycogen synthase (EC 2.4.1.21).

24. A method of identifying a compound capable of inhibiting the growth of pathogenic microorganisms by interfering with the activity of ADP glucose pyrophosphorylase (EC 2.7.7.27) which method comprises exposing a substrate comprising ADP glucose pyrophosphorylase (EC 2.7.7.27) to a plurality of test compounds and identifying a test compound which binds to said ADP glucose pyrophosphorylase (EC 2.7.7.27).

25. A method of identifying a compound capable of inhibiting the growth of pathogenic microorganisms by interfering with the activity of glycogen synthase (EC 2.4.1.21) which method comprises exposing a substrate comprising glycogen synthase (EC 2.4.1.21) to a plurality of test compounds and identifying a test compound which binds to said glycogen synthase (EC 2.4.1.21).

26. The method of claim 24, wherein said substrate comprises a plurality of ADP glucose phosphorylase (EC 2.7.7.27) molecules and said test compounds comprise a label to permit identification of a test compound which binds to ADP glucose pyrophosphorylase (EC 2.7.7.27).

27. The method of claim 24, wherein said substrate comprises a plurality of glycogen synthase (EC 2.4.1.21) molecules and said test compounds comprise a label to permit identification of a test compound which binds to glycogen synthase (EC 2.4.1.21).

28. The method according to any one of claims 18 - 27, wherein said pathogenic microorganism is a member selected from the group consisting of *Chlamydia pneumoniae, Chlamydia trachomatis, Escherichia coli* O157, *Haemophilus influenzae, Mycobacterium leprae, Mycobacterium tuberculosis, Salmonella typhimurium* and *Vibrio cholerae, Streptococcus pneumoniae, Yersinia pestis, Bacillus subtilus* and *Bacillus anthracis*.

29. A compound capable of inhibiting the growth of pathogenic microorganisms in a mammalian patient identified by the method according to any one of claims 18 – 27.

30. A method of treating a microorganism infection in a patient which comprises administering to said patient an effective amount of a compound identified by the method according to any one of claims 18-27.

31. A pharmaceutical composition for the treatment of a microorganism infection which comprises a pharmaceutically acceptable carrier and an effective antimicrobial amount of a compound identified by the method according to any one of claims 18-27.